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EXAMINER

MOUZON, LAJUANIA N

ART UNIT PAPER NUMBER

2109

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/714,157

Applicant(s)

LEVANONI ET AL.

Examiner

La Juania N. Mouzon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/18/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 3/18/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 182, 184, 186, 195, 300, and 535. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

4. The disclosure is objected to because of the following informalities: ¶0062 should read, "...Once the message has been processed **535**, or if no...".

Appropriate correction is required.

5. The disclosure is objected to because of the following informalities: ¶0072 should read, "...then the instance I(S) is left in active memory **570**, as the ...".

Appropriate correction is required.

Claim Objections

6. Claim 5 is objected to because of the following informalities: There is an "**an**" instead of an "**on**". It should read, "...metrics are based **on** idle time...". Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 9, 22, 24, 37, and 39 are rejected under 35 U.S.C. 112 2nd paragraph because the claimed "business process"-limitation does not set forth clear boundaries of the subject matter for which protection is sought. Nor is the claimed "business process" clearly defined in the specification so as to set forth any special meaning of this limitation. A person having ordinary skill in the art may regard a "business process" as: "a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer" (See Credit Research Foundation, <<http://www.crfonline.org/orc/glossary/b.html>>). Therefore, specifically claiming a "business method" process does not properly set forth the metes and bounds of the subject matter that is sought to be patented.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 25-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As defined in the specification (**¶0020**) a computer readable medium can be a transmission medium such as a modulated data signal.

11. Software, per se:

The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a

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composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-3 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Enck et al. (US PGPub 2002/0183972).

Figure 3 by Enck et al. is reproduced below.

14. In regards to claim 1 Enck et al. teach, a system for improving the efficiency of a message processing system, comprising:

- a. a mechanism for using performance metrics to determine the workload of the message processing system and to determine whether the message processing system is overburdened with messages (§§0038-§0042 and Fig. 3, teaches a mechanism for using the performance metrics to determine workload and if the system is overburdened with messages);
- b. and a mechanism for restricting the number and/or type of new messages, whereby the system is able to help the message processing system to process its existing work if the system determines the message processing system to be overburdened (§§0038-§0042 and Fig. 3, teaches a mechanism for limiting the number of new messages so they system can operate without overburden using the data management feature.) .

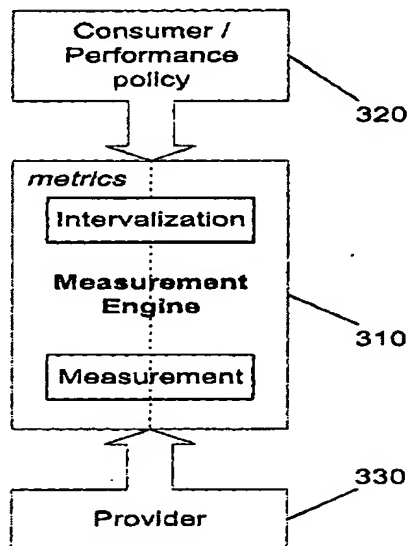


FIG. 3

15. In regards to claims 2 and 3 Enck et al. teach, wherein the performance metrics are based on memory consumed and power used by active message processing (**¶0033, teaches that the performance metrics that are used does consist of memory and power used.**).

16. In regards to claim 9 Enck et al. teach, wherein the message processing system is implementing a business method process using distributed application software (**¶0037, teaches that the message processing system can be implemented using a set of instructions stored on a computer readable storage medium.**).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claims 4-8, and 10-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enck et al. (US PGPub 2002/0183972) as applied to claim 1 above, and further in view of Lownsborough et al. (US 7,003,572).

Figures 1 and 2 by Enck et al. are reproduced below.

20. In regards to claim 4 Enck et al. do not teach, wherein the system uses the performance metrics to predict how long an idle process will remain idle, thereby enabling a determination as to whether the system should move the process out of active memory and into secondary storage, thereby improving system performance.

21. In the same field of endeavor Lownsborough et al. teach, using the performance metrics to determine idle time, for a process, for improving the system performance **(Col. 9 line(s) 65-67 – Col. 10 line(s) 1-6).**

22. Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify Enck et al. adaptive performance data measurement and collections with Lownsborough et al. teaching as discussed above to allow for the capability of substantially maximizing the utilization of existing connections and minimize idleness.

23. In regards to claim 5 Enck et al. teach, wherein the performance metrics are based an idle time of a past process (**¶0036, teaches whereas the performance**

metrics can be gather and saved to be relied upon for historical data metrics usage. Therefore, obvious that they can be based off of an idle time of a past process).

24. In regards to claims 6, 20, and 35 Enck et al. teach, wherein the performance metrics are assigned according to a predetermined criterion if no performance metrics are available (**¶0019, teaches a base level that is determined for the performance metric criterion to be used if no metrics are available.**).

25. In regards to claim 7 Enck et al. teach, wherein the system determines whether the predicted duration of idle time exceeds a predetermined threshold (**¶0033, teaches that any parameter can be used as a threshold.**).

26. In regards to claim 8 Enck et al. teach, wherein the predetermined threshold is based on a prior idle process (**¶0033, teaches that any parameter can be used as a threshold.**).

27. In regards to claim 10 Enck et al. teach, a method for improving the efficiency of a message processing system, comprising:

- c. determining a workload of a message processing system (**¶0020, teaches determining a workload of a message processing system.**);

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- d. polling for a new message according to the workload status (**¶0020, teaches polling for messages according to the workload status. Whereas these messages can be either new or old.**);
 - e. identifying a blocked instance being processed by the message processing system (**¶0024, teaches identifying a blocked instance in the form of a problem during processing.**);
 - f. and dehydrating the blocked instance if the expected idle time exceeds a predetermined threshold (**¶0025, teaches if the predetermined threshold is exceeded then the message is sent to the acknowledge database and the collection can continue on the local database.**).
28. Enck et al. do not teach, calculating an expected idle time for the blocked instance.
29. In the same field of endeavor Lownsborough et al. teach, calculating an expected idle time (**Col. 9 line(s) 65-67 – Col. 10 line(s) 1-6**).
30. Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify Enck et al. adaptive performance data measurement and collections with Lownsborough et al. teaching as discussed above to allow for the capability of substantially maximizing the utilization of existing connections and minimize idleness.

31. In regards to claims 11 and 26 Enck et al teach, wherein determining the workload comprises accessing performance data regarding the message processing system, and determining, using the performance data, the workload with respect to a system operating parameter (**¶0020, ¶0026 Fig. 1 and 2, teaches that the performance data is accessed to determined the performance data according to the system's operating parameters.**)

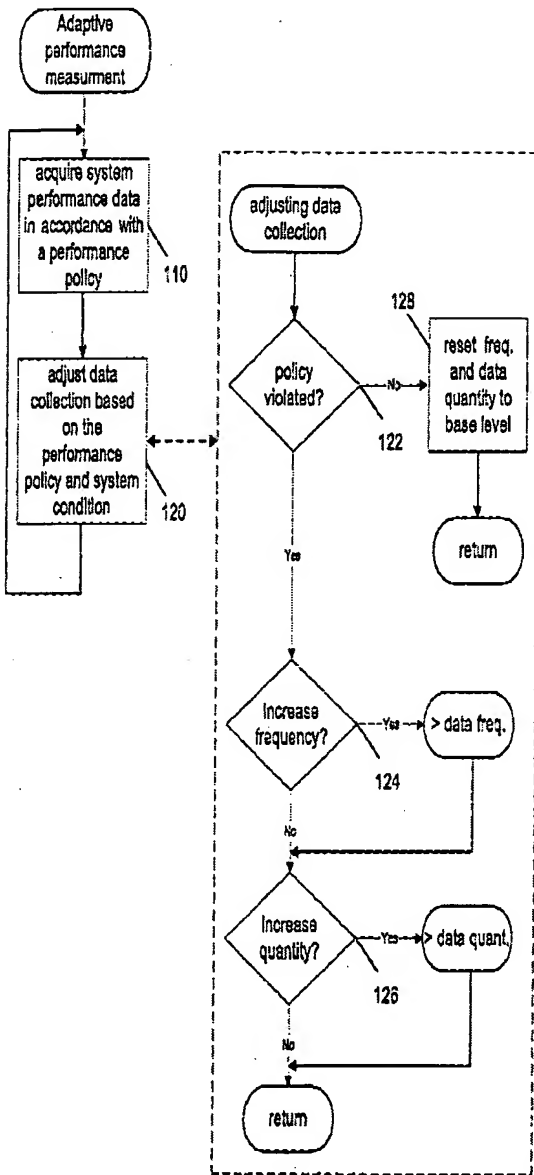


FIG. 1

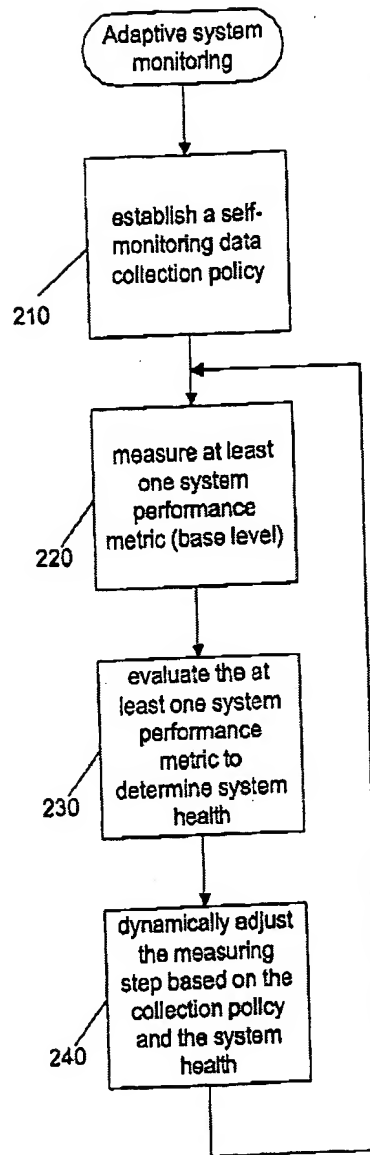


FIG. 2

32. In regards to claims 12, 13, 27 and 28 Enck et al. teach, wherein the performance metrics are based on memory consumed and power used by active message processing (¶0033, teaches that the performance metrics that are used does consist of memory and power used.).

33. In regards to claims 14 and 29 Enck et al. teach, further comprising updating the workload according to the dehydration of the instance (**¶0026, teaches the steps of measuring, evaluating and dynamically adjusting can be repeated to allow for continuous adaptive monitoring of the system performance metrics.**).

34. In regards to claims 15 and 30 Enck et al. teach, further comprising updating the threshold according to the workload (**¶0026 and Fig. 2, teaches updating thresholds according to the workload.**).

35. In regards to claims 16 and 31 Enck et al. teach, wherein the polling step is carried out at a frequency that is inversely proportional to the workload (**¶0020 and Fig. 1 #124 & #126, as shown above on pg. 11, teaches whereas the frequency can be adjusted according to the workload.**).

36. In regards to claims 17 and 32 Enck et al. teach, wherein the polling step is carried out at one of a first or second frequencies, wherein the first frequency is greater than the second frequency (**¶0046, teaches whereas adjusting a frequency of data collection and/or adjusting data quantity collect at collection intervals. It would have been obvious that these frequencies can be increased or decreased as needed. Therefore, first could be higher than the second.**).

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37. In regards to claims 18 and 33 Enck et al. teach, wherein the polling step further comprises polling only for a new non-activation message (**¶0020, teaches polling for messages. Whereas these messages can be either new or old. The Examiner is interpreting the term “non-activation” message as being a message that is not a new message.**).

38. In regards to claims 19 and 34 Enck et al. do not teach, wherein calculating the expected idle time comprises: accessing performance data for the message processing system; determining a length of time the blocked instance has been idle; and generating the expected idle time based on the performance data and length of time the blocked instance has been idle.

39. In the same field of endeavor Lownsbrough et al. teach wherein calculating the expected idle time comprises: accessing performance data for the message processing system; determining a length of time the blocked instance has been idle; and generating the expected idle time based on the performance data and length of time the blocked instance has been idle (**Col. 9 line(s) 53-67 – Col. 10 line(s) 1-6**).

40. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Enck et al. adaptive performance data measurement and collections with Lownsbrough et al. teaching as discussed above to

allow for the capability of substantially maximizing the utilization of existing connections and minimize idleness.

41. In regards to claims 21 and 36 Enck et al. teach, wherein the blocked instance is a first instance (**¶0024, teaches identifying a blocked instance in the form of a problem during processing. This would be the first instance.**),

g. and the performance data comprises a recorded idle time of a second instance (**¶0036, teaches performance data being collected therefore it can also have recorded the idle time of a second instance.**)

42. In regards to claims 22 and 37 Enck et al. teach, wherein the message processing system is implementing a business method process using distributed application software (**¶0037, teaches that the message processing system can be implemented using a set of instructions stored on a computer readable storage medium.**).

43. In regards to claim 23 Enck et al. teach, a method for managing a workload of a message processing system, comprising:

h. determining the workload of the message processing system (**¶0020, teaches determining a workload of a message processing system.**);

i. polling for a new message at a frequency, wherein the frequency is inversely proportional to the workload (**¶0020 and Fig. 1 #124 & #126, as**

shown above on pg. 11, teaches whereas the frequency can be adjusted according to the workload.)

j. and, if the workload is above a predetermined limit, polling only for a new non-activation message (**¶0020, teaches polling for messages. Whereas these messages can be either new or old. The Examiner is interpreting the term “non-activation” message as being a message that is not a new message.**);

k. identifying a blocked instance being processed by the message processing system and (**¶0024, teaches identifying a blocked instance in the form of a problem during processing.**),

l. if the blocked instance has no executable segments (**¶0024, teaches identifying a blocked instance, that has no executable segments, in the form of a problem during processing.**);

m. and determining whether the expected idle time exceeds a predetermined threshold and, if so, dehydrating the blocked instance (**¶0025, teaches if the predetermined threshold is exceeded then the message is sent to the acknowledge database and the collection can continue on the local database.**);

n. updating the workload according to the dehydration (**¶0026, teaches the steps of measuring, evaluating and dynamically adjusting can be repeated to allow for continuous adaptive monitoring of the system performance metrics.**) ;

o. and updating the performance data according to the polling of the new message (**¶0026, teaches the steps of measuring, evaluating and dynamically adjusting can be repeated to allow for continuous adaptive monitoring of the system performance metrics.**).

44. Enck et al. do not teach calculating an expected idle time for the blocked instance based on performance data relating to the message processing system.

45. In the same field of endeavor Lownsbrough et al. teach, calculating an expected idle time (**Col. 9 line(s) 65-67 – Col. 10 line(s) 1-6**).

46. Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify Enck et al. adaptive performance data measurement and collections with Lownsbrough et al. teaching as discussed above to allow for the capability of substantially maximizing the utilization of existing connections and minimize idleness.

47. In regards to claims 24 and 39 Enck et al. teach, wherein the new message relates to a business method process (**¶0025, teaches a new message, in the form of data collection, that relates to a business method process since this system can be used in an business environment.**).

48. In regards to claim 25 Enck et al. teach, a computer-readable medium having computer-readable instructions for performing a method for improving the efficiency of a message processing system (**¶0037, teaches that the message processing system can be implemented using a set of instructions stored on a computer readable storage medium.**), the method comprising:

- p. determining a workload of a message processing system (**¶0020, teaches determining a workload of a message processing system.**);
- q. polling for a new message according to the workload status (**¶0020, teaches polling for messages according to the workload status.**);
- r. identifying a blocked instance being processed by the message processing system (**¶0024, teaches identifying a blocked instance in the form of a problem during processing.**);
- s. and dehydrating the blocked instance if the expected idle time exceeds a predetermined threshold (**¶0025, teaches if the predetermined threshold is exceeded then the message is sent to the acknowledge database and the collection can continue on the local database.**).

49. Enck et al. do not teach, calculating an expected idle time for the blocked instance.

50. In the same field of endeavor Lownsborough et al. teach, calculating an expected idle time (Col. 9 line(s) 65-67 – Col. 10 line(s) 1-6).

51. Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify Enck et al. adaptive performance data measurement and collections with Lownsborough et al. teaching as discussed above to allow for the capability of substantially maximizing the utilization of existing connections and minimize idleness.

52. In regards to claim 38 Enck et al. teach, a computer-readable medium having computer-executable instructions for performing a method for managing a workload of a message processing system, the method comprising (**¶0037, teaches that the message processing system can be implemented using a set of instructions stored on a computer readable storage medium.**):

t. determining the workload of the message processing system (**¶0020, teaches determining a workload of a message processing system.**);

u. polling for a new message at a frequency, wherein the frequency is inversely proportional to the workload (**¶0020 and Fig. 1 #124 & #126, as shown above on pg. 11, teaches whereas the frequency can be adjusted according to the workload.**)

v. and, if the workload is above a predetermined limit, polling only for a new non-activation message (**¶0020, teaches polling for messages. Whereas these messages can be either new or old. The Examiner is interpreting the**

term “non-activation” message as being a message that is not a new message.);

w. identifying a blocked instance being processed by the message processing system and (**¶0024, teaches identifying a blocked instance in the form of a problem during processing.**),

x. if the blocked instance has no executable segments (**¶0024, teaches identifying a blocked instance, that has no executable segments, in the form of a problem during processing.**):

y. and determining whether the expected idle time exceeds a predetermined threshold and, if so, dehydrating the blocked instance (**¶0025, teaches if the predetermined threshold is exceeded then the message is sent to the acknowledge database and the collection can continue on the local database.**);

z. updating the workload according to the dehydration (**¶0026, teaches the steps of measuring, evaluating and dynamically adjusting can be repeated to allow for continuous adaptive monitoring of the system performance metrics.**) ;

aa. and updating the performance data according to the polling of the new message (**¶0026, teaches the steps of measuring, evaluating and dynamically adjusting can be repeated to allow for continuous adaptive monitoring of the system performance metrics.**).

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53. Enck et al. do not teach calculating an expected idle time for the blocked instance based on performance data relating to the message processing system.

54. In the same field of endeavor Lownsbrough et al. teach, calculating an expected idle time (**Col. 9 line(s) 65-67 – Col. 10 line(s) 1-6**).

55. Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify Enck et al. adaptive performance data measurement and collections with Lownsbrough et al. teaching as discussed above to allow for the capability of substantially maximizing the utilization of existing connections and minimize idleness.

Conclusion

56. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hellerstein et al. (US 7,137,019) an adaptive throttling system for data processing systems.

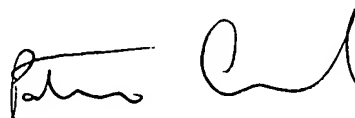
57. Any inquiry concerning this communication or earlier communications from the examiner should be directed to La Juania N. Mouzon whose telephone number is 571-270-3045. The examiner can normally be reached on Monday - Friday 8:00-5:00.

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58. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

59. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LNМ

A handwritten signature in black ink, appearing to read 'Patrick Assouad', with a stylized flourish at the end.

PATRICK ASSOUD
SUPERVISORY PATENT EXAMINER